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Vol. XXI NOVEMBER, 1951 No. 9

CONTENTS

Present Day Concept of School Health Programs 281
C. Adele Brown, M.D.

Development of a School Health Program 283
Helen A. Cary, M.D.

School Health Services in Philadelphia 287
Ruth H. Weaver, M.D.

The College Health Program 298
Marjory J. Nelson, M.D.

Management of Children With Heart Disease 301
Mildred Doster, M.D., M.S.P.H.

Editorials 308

Abstracts and Notes 307, 310

Reviews 312

Meeting 314

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Your participation by membership is solicited.

Vol. XXI NOVEMBER, 1951 No. 9

PRESENT DAY CONCEPT OF SCHOOL HEALTH PROGRAMS

C. ADELE BROWN, M.D.*

The organization and administration of a good school health service program are a challenge to any physician interested in this field. Such service should be an integral part of any broad community health program and free from politics. My own belief is that it is best administered through Boards of Education rather than through Departments of Health, but the solution of this ancient argument depends largely upon the local situation. In any case, a strong program requires a good director and a well trained staff, adequate in number. One of the outstanding reasons why I favor sponsorship by Boards of Education is that the staff does not then have divided duties, a condition which often leaves insufficient time for a comprehensive program.

Many physicians are not aware of the full scope of a school health service. The routine medical examinations are but a small part of the program, which is designed to bring children to maturity with optimum physical and mental health. Emphasis is on the development of positive health. Parents and children must be taught the value of preventive measures, in the broadest meaning of preventive, so that they will assume responsibility for them.

The medical examination is designed to determine the health status of children. Findings should be interpreted to the parent and all corrections of defects should be made by the family physician. Except for emergency care in case of accident or sudden illness, no treatment should be given in school. Methods of obtaining funds for necessary care, in case the family is unable to provide them, depend largely on the local situation; but my experience has shown that no child need be left uncared for if one has an energetic and resourceful staff. In our State of New York, the Physically Handicapped Children's Law has been a tremendous help. For many types of defects the county and state share the bill, if

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approved by the Judge of the Children's Court. The Welfare Department and many civic groups fill the gap, so that no child need be neglected.

In this issue of the JOURNAL, Dr. Helen A. Cary gives a clear outline of the historical background of the development of school health programs. Dr. Ruth H. Weaver presents a picture of the broad outlook taken by those in charge of the outstanding programs of today.

One is impressed by the underlying principle of planning for the whole child. Dr. Marjory J. Nelson continues the story with a description of efforts to develop an integrated personality in students on the college level. Republished from the Journal of the American Medical Women's Association, March, 1951, p. 83.

* * * * *

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DEVELOPMENT OF A SCHOOL HEALTH PROGRAM

HELEN A. CARY, M.D.*

School Health Service is a branch of Public Health which touches one of the largest sections of the population of the country. It reaches the school age group of the whole social structure, from the most needy to the well-to-do, without discrimination. It is a service for health protection and health guidance of the school child in its home away from home. It started just before the beginning of the twentieth century as a program for control of communicable disease. At first there was no trained personnel nor was there any criterion for program planning.

When the present methods of immunization were unknown and the only method of control was quarantine—isolation of the patient with exclusion of family contacts for the isolation period —epidemics broke up school attendance and interfered with educational programs. Vaccination against smallpox had long been established in many communities and was required before entrance to school. This was then the only communicable disease which could be scientifically controlled. However, there still are communities in which vaccination is not compulsory except at times of an outbreak of smallpox.

With the advent of toxin-antitoxin and later toxoid for immunization against diphtheria, much was accomplished to control absence, through marked decrease in diphtheria incidence. Throughout the United States, school health services instituted immunization programs offering protection against diphtheria to school children. These were coupled with an educational phase which went into the home, advising parents that protection for the pre-school child was advisable. Parents gradually accepted the knowledge that diphtheria was unnecessary and that protection given in infancy, with a booster dose on entering school, would protect their children. The immunization clinics of school children have now been reduced to a minimum because parents seek this service from the private physician while the child is in its infancy.

With the advent of the new drugs and the antibiotics, control of communicable disease has ceased to be the problem upon which the program was originally instituted.

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*Dr. Cary was formerly Director, Division of School Hygiene, Bureau of Health, Portland, Oregon, and is a Past President of the American School Health Association, and one of the two women ever to have received the William A. Howe Honor Award given by the Association for outstanding service in the field of School Health.

Examination of World War I draftees brought out the fact that our children were growing up with defects started in childhood, which might have been prevented if observed earlier. This aroused the interest of school health personnel, and programs of physical examination of school children were started in many parts of the country. These examinations were conducted by private physicians working part-time in the schools or by health department personnel. At first children were examined in school without the presence of parents, but this was unsatisfactory. Findings were recorded but no definite plans were made as to what should be done about them. It was soon recognized that examinations alone would not accomplish the desired goal—the school child's healthy growth. Further plans had to be developed.

About this time the American School Physicians Association was founded for the purpose of developing a philosophy and program to guide the normal growth and welfare of school children. They met to discuss the problems involved and ways of solving them. Because of the limited number of doctors engaged in this new, untried field, the analysis required time and exploration of possibilities. Questions arose as to the frequency and type of examination; what grades should be included; whether examinations should be on selected children only or on all children; in what manner parents should be informed of the findings—by note from the physician, by conference with the parent, or by home call by a qualified worker. Questions such as these could not be solved at one conference, but were studied for a number of years. After data was gathered from the experience of workers in the field from various parts of the country, policies were formulated.

Gradually a system was evolved which seemed to meet the needs of most communities and could be successfully carried on in most school systems. It was recognized from the beginning that the program should not be one of definite diagnosis or treatment, for that was the prerogative of the family physician. Yet it was known that a large majority of children were not being given health guidance by their doctor who saw them only in case of illness. The examination program gradually took definite form. The procedure in many parts of the country today is carried out according to the size of the medical staff. An attempt is made to see that all children entering a school system for the first time have a physical check-up. If they have not received one from the family physician or no report of findings is available, the child is scheduled for an examination by a school physician, and the parent is urged to be

present. During the school experience, according to the staff available, the child is checked at intervals and the parent urged to be present. These examinations are not as complete as those given in the family physician's office, for laboratory tests are not made. School examinations include a short history; observations for social adjustment; ability to carry on school work; a record of absences; as well as the findings of the physician regarding the child's growth and development or any noticeable deviations from the normal which might indicate a beginning defect. When such conditions are observed a note is made for the parent so that the child may be taken to the family physician for more complete examination and medical guidance.

A link was needed between the school, the home, the school physician, and the family physician. Here, the public health nurse is a most important part of the team. She arranges for the physical examination, inviting the parent to be present, assists the examining physician, informs the teacher of any unusual condition which might interfere with the child's normal school progress, and does the follow-up for correction of the defect.

At the same time that the medical examination program was being developed, a dental program was evolving independently under supervision of local dental societies in various parts of the country. This group had the same problems as had those working on the physical examination program.

With the growth and expansion of School Health Service, the American School Physicians Association opened its membership to include all those engaged in any phase of the work. The name was changed to American School Health Association. Dentists, nurses, nutrition workers, health education instructors, as well as physical education personnel became eligible for membership. This broadening of interests has aided in co-ordinating the services and improved the efficiency of teamwork for effective results. As the group met in annual conference it was recognized that standards of qualifications for workers needed to be formulated. Committees were set up to present standards which have been accepted throughout the country.

Physical examinations pointed out the need for many other activities in a school health service. Regular weighing and measuring of children are now carried on by the classroom teacher, as are vision tests. Children are first screened out by the teacher and, upon any indication of visual defect, are referred to the public health nurse for recheck and later referral for visual correction.

Extensive audiometer hearing tests are given by a technician with referral for medical attention when a loss of hearing is noted. The problem of examining students participating in athletics had to be considered, as well as need for medical attendants at sports activities.

It became necessary to meet many new problems such as healthy school situations; the matter of nutrition and good school lunches; guidance of teachers; recognition of mental health needs; review of health materials used in health education classes for content and accuracy of statement; care of crippled children; provision of special facilities for children with heart disease; and guidance of the physically under-par child. Arrangements are frequently made with special organizations, such as the Heart Association, Tuberculosis Association, diabetic specialists, and the Crippled Children's Division of the Children's Bureau, for care in needy cases.

Many times there is a school health committee of a local medical society to co-ordinate the work of the specialist in the field of school health with the medical group as a whole. Counsel and help is thus made available to school personnel, and the program can be interpreted to the medical group as a whole. In some instances the staff of school physicians is responsible for health certification of prospective teachers, as well as recommendations for retirement of older teachers.

As can be seen, School Health Service is a broad field of activity touching the lives of most of the community. This service has its authority through dual government agencies, namely, Boards of Education and Bureaus of Health. The responsibility for its administration may be vested in one agency or the other, while sometimes it is a combined one. The present trend seems to be toward the health department since the guidance is primarily medical.

It is satisfying to one who has worked in this field to note, in going over case reports and in rechecking physical findings records, the great number of children who have been helped to better health. This service has developed in growing youth a recognition of the need for periodic health examinations, and has given a definite impetus to development of preventive health programs in the private physicians' field.

The ideal of optimum health and growth for all children has not been reached, but a good deal has been accomplished, and as time passes much more can be done by the working together of the school health team in conjunction with the family physician and all trained medical personnel. Republished from Journal of the American Medical Women's Association, March, 1951, p. 85.

SCHOOL HEALTH SERVICES IN PHILADELPHIA

RUTH H. WEAVER, M.D., M.P.H.*

Health officers have always been aware of the opportunities schools have to improve the health of school children. Educators have been slower to appreciate the need for a good school health program. In Pennsylvania, in 1945, the State Legislature passed a New School Health Act which increased greatly the duties and responsibilities of school health officers. In fact, this Act compelled schools to institute complete medical and dental examinations of pupils every other year, while they are members of odd grades. In Philadelphia, for two years prior to the passage of this New School Health Act, there had been a limited program of stripped examinations of pupils, provided the parents gave written consent. There had also been some dental examinations of pupils, but both types of examinations were made of a limited number of pupils.

Since 1945, the Division of Medical Services of the Philadelphia Board of Public Education has made over 500,000 medical examinations of pupils and nearly 400,000 dental examinations. The professional personnel is composed of medical and dental examiners, school nurses, and dental hygienists. The city is divided into seven school districts. In each district there are approximately 12 medical inspectors, under direction of a medical supervisor, and 22 school nurses, under supervision of a nurse co-ordinator. The total pupil enrollment in the public schools last year was 210,645. Each medical inspector is responsible for the health supervision of about 2,600 pupils, but he averages complete physical examinations of approximately half of these, those who are in the odd grades.

The law requires that a nurse be present at each complete physical examination and, further, that no more than four medical examinations be made in an hour. Much of the preliminary work is done by the nurse before the arrival of the physician. This includes recording the family and past personal history given by the parent, weighing and measuring the pupil, taking the temperature, pulse, and respiration, and recording these findings. The law makes vision testing the responsibility of the physician. Many times it takes more than 15 minutes to make an examination, especially if the parent is present, since this affords an opportunity

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for an interview between the parent and physician to stress health facts that appear pertinent.

One regulation in Philadelphia, which is not a requirement of the State, is that girls above the fifth grade must be examined by women physicians and boys above the fifth grade by men physisians. This arrangement has advantages and is popular with the pupils. Boys and girls are much more likely to discuss their health problems or their social behavior with a person of their own sex. In order to carry out this requirement, two or more women physicians are assigned to each district.

School medical inspectors work only in the mornings, while the nurses are on full-time duty. The salary of the medical inspectors is $2,525 a year, while that of the medical supervisors ranges from $3,600 to $5,800 with an annual increment of $250. It is interesting to note that of the 81 district medical inspectors, 16 are women. There is also one woman medical supervisor.

The legislators in Harrisburg realized that by the School Health Act of 1945 many defects were being found among the school population, yet no provision had been made for their correction. Consequently, in 1947, a new law was passed requiring each School District to employ school nurses and to engage a sufficient number so as to provide one school nurse for the care of every 1,500 pupils enrolled. School nurses must meet certain requirements. The State Health Department reimburses the School District $800 a year for each certified school nurse carrying the required pupil load. The State Health Department also reimburses the School District at the rate of $1.50 for every medical examination and 75 cents for every dental examination, which is in partial payment of the professional personnel. This applies to every pupil in the Commonwealth, whether in public, parochial, or private school. All schools participating in Philadelphia send reports to the Division of Medical Services of the Board of Public Education. A composite report is then compiled and sent to Harrisburg each month. One check is forwarded by the State Health Department to the Secretary and Business Manager of the School District of Philadelphia. The Secretary then apportions the funds to the participating schools.

There is no reimbursement for examinations made by private physicians or private dentists. Some private schools require their pupils to be examined by their own physicians; therefore, they are not included in this program. Even in public schools, parents are permitted to have their children examined by their own doctors.

Few take advantage of this. About 1 per cent of the medical examinations each year are made by private physicians. Parents state that some private physicians, unless they are pediatricians, do not have adequate equipment to make as complete an examination as the school physicians. Others prefer the school medical inspector, since he has not seen the child previously and therefore can render an unbiased opinion as to the child's health.

Parents are urged to be present at the time of the examination. In elementary schools, approximately 80 per cent of the parents attend. In a few schools with enterprising principals, the figure reaches 100 per cent. There is much less difficulty about having defects treated if the parent witnesses the examination and confers with the doctor and nurse. In secondary schools, pupils frequently request their parents not to attend the examination, as they want to feel free to discuss their problems with the doctor alone.

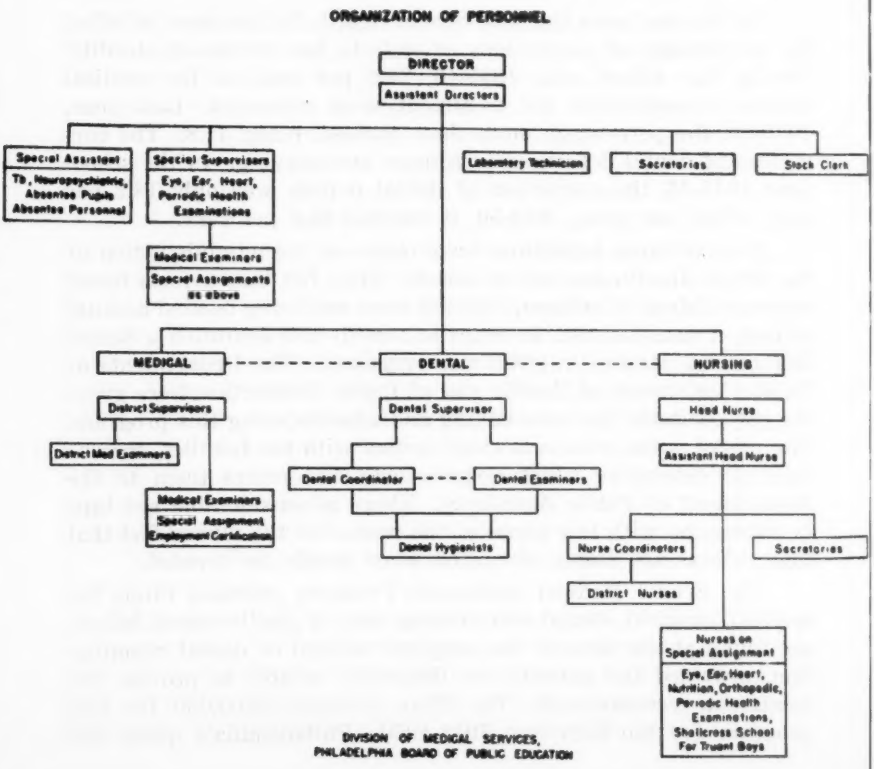
In the five years the New School Health Act has been in effect the percentage of corrections of defects has increased steadily. During the school year 1945-46, 20.6 per cent of the medical defects recommended for treatment were corrected. Last year, 1949-50, the percentage more than doubled, being 41.8. The correction of dental defects is even more encouraging. In the school year 1945-46, the correction of dental defects was only 18.2 per cent, while last year, 1949-50, it reached 62.6 per cent.

Pennsylvania legislators have observed the administration of the School Health Act rather closely. They felt that defects found among children of indigent families were not being treated because of lack of financial aid. In order to remedy this condition a School Medical Assistance Program was organized. The Departments of Public Assistance, of Health, and of Public Instruction were given the responsibility for establishing and administering this program. The school nurse, who is in close contact with the families, screens cases to determine which require help and refers them to the Department of Public Assistance. There is considerable red tape in connection with this phase of the work, but the nurses feel that their efforts are amply rewarded when pupils are treated.

The School Medical Assistance Program provides funds for medical, surgical, dental and nursing care of pupils whose defects are found at the time of the complete medical or dental examination, provided the parents are financially unable to provide the treatment recommended. The State allocated $500,000 for this program for the biennium 1948-1950. Philadelphia's quota last

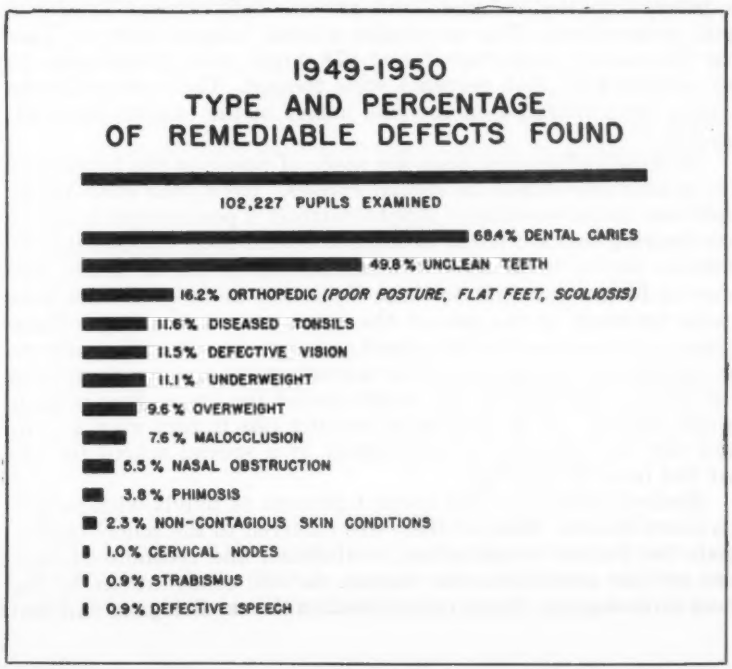
year was $54,765, of which $46,665.01 was actually dispensed. The corrections from this source included 895 tonsillectomies and adenoidectomies, 160 circumcisions, 114 eyeglasses, 36 squint operations, 31 herniotomies, 13 dental corrections, 4 eye clinic treatments, 3 plastic eye cases, and 3 orchidopexies, totaling 1,259 treatments.

The dental health program consists of examination, prophylaxis, and dental health education. The law stipulates that no more than eight dental examinations may be made in an hour. In Philadelphia, the public schools limit the number to five, so that prophylaxis and education can be given. The dental corps is insufficient in number to examine all pupils in the odd grades. Last year only 90,030 pupils were given dental examinations. It will be necessary to add two more dental units in order to complete the dental examinations each year. These have not been provided because of



lack of adequate finances. Private dentists examined 338 pupils last year. This is the approximate number each year. Of the 90,030 pupils examined only 24.7 per cent were found to have sound teeth. The remainder were recommended for dental care. Of the pupils examined, 74.2 per cent were given prophylaxes. Each pupil is taught how to brush his teeth properly, a demonstration being given with a large model of the teeth. The procedure is repeated by the pupil, who brings his own tooth brush to school for this purpose. Pupils are also taught the proper foods to eat to build sound teeth and are instructed to visit the dentist regularly, at least twice a year. The dental health education program is very extensive and is presented to the pupils in an attractive manner by means of puppet shows, motion pictures, plays, and poster contests. The dental defects recommended for treatment include caries, diseased gums, cleft palate, unclean teeth, malocclusion, and congenital deformities.

The dental corps is organized differently from the medical corps. Dentists visit the schools for a period of a few weeks only until they complete examinations of pupils in the odd grades. Dentists are employed on a part-time basis. One group works for three hours in the morning and another for two hours in the afternoon.



The dentist is assisted by a dental hygienist, who is on a full-time basis. She confers with the school nurse about follow-up for correction of dental defects after the unit leaves the school. The Board of Public Education maintains no reparative clinics. Pupils are referred to private dentists or, if indigent, to the City dental clinics maintained by the Department of Public Health in the Health Centers, to hospital dental clinics, or to the Philadelphia Mouth Hygiene Association. This last organization, which is a private agency, is paid a partial fee by the Public School Health Fund.

The type and percentage of defects found last year by the medical and dental examiners are shown in the table on the preceding page.

Besides routine medical and dental examinations, additional services are rendered by the Division of Medical Services. The Division employs such specialists as ophthalmologists, cardiologists, an otologist and a supervisor in charge of periodic health examination of employees. The Division conducts four eye clinics in school buildings. Pupils are referred for special eye examinations, for refraction, and for issuing of glasses to underprivileged pupils. Each year the medical inspectors find approximately 12,000 pupils with defective vision. About 40 percent are referred to the school eye clinics for further study. Another 40 percent are treated by private ophthalmologists and private optometrists in almost equal proportions. The remainder attend hospital clinics. Last year the medical inspectors found 878 pupils with strabismus. Of this number 610 (69.5 percent) were treated. The number known to have been operated on for this defect in the various hospitals was 239.

Routine audiometric tests are made of pupils in the fourth and fifth grades and pupils in special classes. Each year over 16,000 pupils are tested routinely. Approximately 4 percent are found to have hearing loss sufficient to interfere with their educability. In addition, pupils suspected of deafness, regardless of grade, are referred for audiometric testing. Tests are made by nurses with special training in the use of the pure tone audiometer. These nurses are supervised by the school otologist. Pupils with moderate hearing loss are recommended for advantageous seating, those with more severe hearing loss are recommended for lip reading in their regular schools. If the degree of hearing loss is very marked, the pupil may be referred for enrollment in a special school for the deaf and hard of hearing.

Medical inspectors find about 1 percent of pupils with suspicious heart lesions. Most of these are referred to the school cardiologists for further examination, evaluation, and recommendation. Some private physicians also request cardiac consultations by the school cardiologists. Upon reexamination the cardiologists find that

47 percent of the cardiac suspects have normal hearts; 22 percent have organic heart disease; 20 percent have possible heart disease; and 11 percent have potential heart disease. Nearly 300 pupils with congenital heart lesions attend school. Last year 54 of these were considered suitable for surgery and 19 were operated on with gratifying results.

The medical supervisor in charge of cardiology conducts in-service training for school medical inspectors and nurses throughout the year. When a school is found with a number of pupils suspected of having heart disease, the cardiologist visits that school and in the presence of the school medical inspectors and nurses examines and discusses these pupils. The attending physicians are always invited to these conferences and many attend. Reports are sent to the family physician and to the parents.

Pupils found to have malnutrition are given special consideration. In the elementary schools health classes are conducted to provide malnourished pupils with additional feeding and rest periods. They are referred for admission to these classes by the medical inspector or nurse. On admission and again at the end of the term each pupil is given a complete physical examination and the hemoglobin is determined. In addition, both the pupil and the parent are given instruction in adequate diets, menu planning, and the proper preparation and cooking of food. Most pupils remain in these health classes for one term. A Wetzel grid is kept for each pupil, to study the growth curve. The weight gain averages 6¾ pounds per pupil each year and the hemoglobin level increases 13 Gm.

It is considered preferable to allow the undernourished pupil to remain in his regular classroom rather than place him in a class where the teacher may have pupils ranging in age from 6 to 12 years. One school does provide such a special program. The malnourished pupils remain with their classmates most of the day, but visit the health classroom for feeding, rest periods, and health instruction. There are only five health classes now being conducted. They are gradually being discontinued in favor of a full-time nurse program. This permits the nurse to supervise the health of all the pupils in the school rather than concentrate on those with malnutrition.

With the exception of dental caries and unclean teeth, orthopedic defects present the highest incidence of defects recommended for treatment. These include poor posture, flat feet, and spinal curvature (16 percent). A few years ago a program was developed

in an effort to correct these deformities. It is administered jointly by the Division of Medical Services and the Division of Physical and Health Education. A pupil is selected for enrollment by the medical inspector in consultation with the physical education teacher. Individual remedial corrective exercises are given by instructors who devote their entire time to this program. The medical inspector makes frequent visits to these classes to determine the pupils' progress and to approve their dismissal from the classes. Twenty secondary schools and three elementary schools now participate in the program. About 5,000 pupils a year are in attendance. The results have been most satisfactory, and the pupils are enthusiastic. The program is being expanded to include more schools each year.

X-ray surveys are made of pupils in the senior high schools and vocational-technical schools. The Division of Medical Services has no x-ray equipment but relies mostly on the services of the Philadelphia Tuberculosis and Health Association. This organization sends a unit to the schools and examines an average of 15,000 pupils a year. Faculty members are urged to take advantage of this service as are persons in the neighborhood. In addition, a chest x-ray is required of every pupil participating in interscholastic sports. These x-rays are taken by the Philadelphia Tuberculosis and Health Association, Phipps Institute of the University of Pennsylvania, and the chest clinics of the Department of Public Health. Last year one potential athlete was found to have active pulmonary tuberculosis and was excluded from school. Each year about 50 pupils are newly discovered to have pulmonary tuberculosis. One school physician, an Assistant Director, has charge of the tuberculosis control program and all cases must be cleared through him before readmission to school, if once excluded because of tuberculosis.

Other phases of the health program are the communicable disease program including immunizations; the venereal disease control program; complete physical examinations of pupils for work on farms, for enrollment in special courses such as child care training, restaurant practice, and vocational home economics; and screening examinations for pupils applying for employment certification or for participation in competitive sports. School medical inspectors are required to be in attendance at all football games, at cross-country meets, and at playoff contests for basketball. They receive additional reimbursement for these services.

Besides examinations of pupils, the Division of Medical Ser-

vices makes pre-employment examinations of applicants for positions for periodic health examinations of employees. The School Health Act of 1945 states that every teacher or other employee is required to have a periodic health appraisal every two years. This examination may be done by a private physician if desired, but practically 60 percent are made by school physicians. One medical supervisor has a corps of four medical inspectors and five nurses assigned to him for this purpose. He himself makes some examinations in addition to administering the program. Examinations are made in the Administration Building and in the various schools. All examinations are by appointment. The average length of time required for each examination is 45 minutes. The State Health Department reimburses the School District for these examinations, at $1.50 each. Over half of the employees are found to have defects and about 10 percent require further diagnostic studies such as chest x-rays, electrocardiograms, blood studies, and audiometric tests. All periodic health examinations of employees are confidential. The reports are kept in locked files under the jurisdiction of the medical supervisor in charge. The records may not be reviewed even by the Director of the Division of Medical Services, except by written permission of the employee.

While no such detailed study is made of applicants for substitute positions with the Board of Public Education, a careful history is taken and if a physical examination is indicated, it is completed. Every applicant is required to have a chest x-ray. School physicians also examine employees off duty for long illnesses (over 3 months), disability retirement, and sabbatical leave for restoration of health.

There are few opportunities for physicians to obtain training to become school medical inspectors. Those fortunate enough to have taken public health courses have learned the theory of school health but have had little, if any, opportunity for observation or participation. As a consequence, physicians receive "on the job" training. For the first few days' service a new inspector is assigned to a trained medical inspector to observe the work and become acquainted with the routine. The medical supervisor introduces the new medical inspector to the principals, and observes his work closely, offering advice and guidance as needed. It is rarely possible to have meetings of the school medical inspectors, except when the pupils are not in school—in the spring and fall and at the change of terms. At such times the medical supervisors have district meetings to discuss the health program and related problems.

In addition, the supervisors meet once a month with the nurse coordinators and other members of the professional staff for informal discussions. Occasionally a guest speaker is invited to talk on some timely topic. For example, because of an outbreak of acute infectious hepatitis in some schools, a physician from the Children's Hospital who had made extensive studies of other outbreaks told of his experiences and gave advice as to a possible program for prevention.

In-service training is a very important part of the work of the Division. Each spring, after pupils have left school, and each fall before classes begin, a Health Institute, held on three successive days, is arranged for the professional personnel of the Division. To these meetings are invited the personnel of the parochial schools, of the Department of Public Health, and of the various agencies concerned with school health. Outstanding speakers are selected both locally and from other cities to present the latest ideas on subjects dealing with the health of school age children. Ample time is allowed for discussion and local problems are considered. This fall such topics as "Problems of School Children as Seen in the Municipal Court," "Latest Concepts of Caries Control," "The Relation of Fear to Pain," "Some Aspects of Dermatology Pertaining to Pupils," "Restaurant Sanitation and Control of Foodhandlers," "Control of Venereal Diseases," and "Control of Delinquency in School Girls," were included in the program.

School physicians are requested to speak at meetings of parent-teacher associations, to pupils in assemblies, and to faculty members. Each year the parent-teacher associations of a number of schools request the Director of the Division to present a panel discussion to acquaint them with the health program in the schools. At these conferences a group of four or five specialists outline various phases of the health program and discuss them with the parents. These are often evening meetings so that the fathers of the pupils may be present.

The administration of a health program in a large school system is rather complicated. It may be understood more clearly by a review of the organization chart shown elsewhere. (p. 290) A successful school health program requires the coordination and cooperation of other divisions within the school system, as well as of the Department of Public Health, both local and State, and of other related agencies. Good public relations are essential.

School health work has much to offer the physician beginning the practice of pediatrics. Nowhere else is it possible to examine

and observe such a large number of "normal" children. School systems are often requested to allow various studies of groups of pupils. The health director must always be alert to prevent exploitation. Some studies are very helpful, for example, the Pennsylvania Mass Study in Human Nutrition conducted by Dr. Pauline Beery Mack of the Ellen H. Richards Institute of Pennsylvania State College. About 6,000 public school pupils from Philadelphia were examined and tested exhaustively by qualified persons at the Children's Hospital of Philadelphia. This was very beneficial to the nutrition of these pupils, partly because of the intensive follow-up program.

Public health work is particularly appealing to women physicians. The schedule fits into their home responsibilities as few other positions do. The part-time service is attractive to young women with families. Others with more training and more years of service are desirous of making a career of public health and obtaining administrative positions. While this requires full time in most instances, the service is very gratifying and more women physicians are entering public health administration, both in official agencies such as the Board of Public Education and the Department of Public Health, and in private organizations.

A good school health program depends upon many factors. First, there must be an enterprising director with vision and enthusiasm. The director must be supported by an adequate and well trained staff and have the cooperation of the Superintendent of Schools and the Board of Education. There should be a budget sufficient to carry out the essentials of a sound program. There must also be good working relations between the Medical Division and other divisions of the school system dealing either directly or indirectly with the health of school children. Finally, there must be a good relationship between the Medical Division, the Home and School Council, and the community agencies, both public and private, that cooperate with the school system. Republished from Journal of the American Medical Women's Association, March, 1951, p. 87.

* * * * *

THE COLLEGE HEALTH PROGRAM

MARJORY J. NELSON, M.D.*

The objective of a college health program should be to provide means for meeting all health needs on the college campus. These needs will vary according to the size and location of the college, the composition of the student body, that is, the number of dormitory students, day students, married veterans, etc., and availability of community medical resources. Each college has to identify its needs and plan accordingly. As in school health work, any program to be successful must have the understanding and cooperation of the administration, faculty, non-teaching personnel, and students.

A complete health program includes provision for health education, physical education, health services or medical care, healthful sanitary conditions, student counseling, recreation, nutrition, etc. The organization of such a program must be suited to the needs of the individual college. In the third National Conference on Health in Colleges, 1947, it was recommended that "so far as practical the administrative and basic professional leadership of the total health program for a college should be medical. Ideally, the coordinator should be a physician with additional public health training, and with a primary interest in education."

Colleges should assume medical, as well as educational, responsibilities for students. Although the student group is essentially healthy, sickness does occur, and the academic progress of a student is closely associated with his or her health status. At present almost every college takes some medical responsibilities for its students either through the services of a college physician, through health service, or through some other department.

As a basis for entering college the student should have a complete medical examination from which the college physician can determine the health status and arrange appropriate academic and physical activity in accordance with the student's needs. As an example, at Barnard 60 percent of the students either have summer jobs or work part time during the academic year, and this must be taken into consideration when programs are planned. There must also be provision for emergency medical care, bed care for students needing hospitalization, and consultation with specialists when necessary. When students report to the medical office with even

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minor illnesses, an educational opportunity is lost if the college physician or nurse does not take the time to discuss the condition with the student and to point out where and how it could have been avoided or minimized.

The admission medical examination should be followed up preferably with yearly examinations. It is a fairly well conceded fact that young people away from home for the first time are liable to break all health rules and, therefore, must have frequent examinations to remind them of well known health facts. It has been my experience that by the time the senior year is reached the majority of them return to the health practices to which they have been trained.

When defects are found, upon medical examination, they should be discussed with the student and plans made for their correction. Minor defects may be corrected by the student, but those requiring undue expense should be reported and explained to the parents so that provision for correction can be made.

The financing of the health service, as a rule, is through the general funds of the college. It must not be lost sight of, however, that it is important training for the student to learn to associate some payment with medical services. In the majority of colleges and universities there is a health or medical fee. The amount of this does not cover the cost of the health service.

The mental health of college students must be considered as well as physical health, and provision should be made for those needing assistance. In the majority of colleges little is known about the mental health problems of students. The Committee on Mental Health of the College Health Conference estimated that about 15 percent of all college students could be expected to benefit from mental hygiene services. Of these, 5 percent would be considered urgent cases; 5 percent would show evidence of sufficient emotional discomfort to warrant psychiatric care; and 5 percent probably could get along without help but would profit from it.

The mental health problems of college students at Barnard usually involve psychosomatic conditions, difficulties in sex and family relations, and social and scholastic difficulties, and only very rarely a true psychosis. At Barnard the services of a part-time psychiatrist are available; and the demands for such service are on the increase yearly, not so much because the need is increasing but because the student body is gradually becoming educated to the fact that this service can help them resolve their problems satisfactorily.

It is equally important for the faculty and employees to be in good health. Pre-employment examinations, and examinations at regular intervals of faculty and employees are recommended. These should be made by physicians responsible to the college, and expense for these should be borne by the college. When the college is at a distance from available medical service, medical care on the campus should be provided. If the college is so located that medical care is easily available, the college administration and health service should encourage the faculty and employees to become members of one of the prepaid medical care plans, as the Blue Cross.

The main function of a health service of the college is to serve the students. When this is adequately done, the health problems of faculty and employees may be considered. Of course the health service would always give first aid or emergency care to anyone on the campus.

Classroom instruction in health subjects is considered necessary, and this should carry with it academic credit. The type of instruction should vary with the previous training of the students. The basic health course should provide information concerning all parts of the human body and their functioning, as well as information on mental health, should encourage behavior which will assist the student to achieve and maintain the best health possible, and should develop attitudes in the students which will lead them to cooperate with community health programs.

Physical education programs are very important and should be available for all students. Through this program students can develop an appreciation of their capacities and limitations for participation in sports, relieve tensions and strains, participate effectively and cooperatively in group activities, correct or improve remediable defects which will respond to prescribed physical activity, and develop appreciation of sports as an active participant or as a spectator.

The college student has many important problems to face and solve, vocational, social, or emotional. Frequently help is needed for them to acquire a mature attitude. A counseling service should be provided by the college to assist these students. The faculty advisors should be interested not only in the academic problems of the student but also in the personal problems of young people.

Republished from Journal of the American Medical Women's Association, March, 1951, p. 94.

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MANAGEMENT OF CHILDREN WITH HEART DISEASE

The Denver Public School Health Program

MILDRED DOSTER, M.D., M.S.P.H.*

Heart disease in childhood is one of the most significant health problems of the school age population, because, in the acute state, rheumatic fever ranks second only to accidents as a killer of the 5-to-19-year age group and because, when chronic, it often requires rehabilitation and re-direction for daily living and the educational program. With an estimated 35,000,000 children and youth in this 5-to-19-year age group susceptible to rheumatic heart disease, and approximately another 15,000,000 under five years of age who are the reservoir of congenital heart defects, it is estimated by the National Office of Vital Statistics (1948) that least one percent, or 500,000 of the children and youth in the United States have noteworthy heart disease.

School programs for the detection and care of the nation's 350,000 students who by conservative estimates have abnormal cardiac conditions depend on the availability of health resources in both the school and the community.

The Denver Public Schools have supported a comprehensive health service program since 1924. The present organization and functions are shown in the diagram on the following page.

The high death rate from rheumatic heart disease among school children in Colorado and in Denver has stimulated an unusual interest and concern for this disease. For the past decade, the examining physicians and the school nurses have actively participated in in-service discussion groups, demonstrations, and seminars in the diagnosis and care of heart disease in children. It is obviously as imperative to have competent screening of the potential cases in the schools as it is to have specialized cardiac centers or clinics available in the community.

In 1944, a Rheumatic Fever Diagnostic Service was developed and incorporated as an adjunct to the University of Colorado Medical School. It jointly serves the private physicians and the schools and offers a thorough diagnostic study of all children suspected of heart disease. This clinic came into being largely through the stimulus of the Denver Public Health Council, a coordinating group composed of representatives of the health and civic agencies in the

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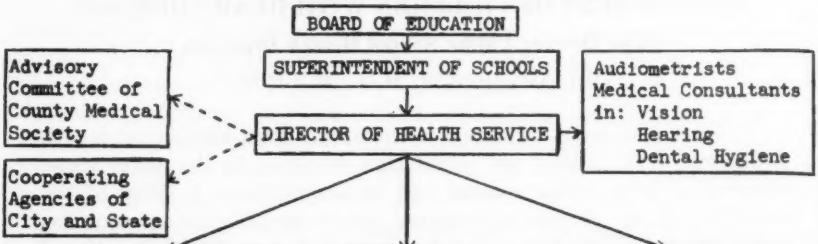
GENERAL ORGANIZATION PLAN AND OBJECTIVES OF THE HEALTH SERVICE DEPARTMENT
Denver Public Schools 1950 - 1951



NURSING PROGRAM

1. Confers with children, parents, teachers, and, others on acute health problems and their corrections.
2. Assists in meeting health needs occuring at school.
3. Assists medical examiners.
4. Assists school personnel in making vision and hearing tests, weighing and measuring, and inspections for communicable diseases.
5. Keeps up to date cumulative health and growth records on each child for the evaluation of health needs.
6. Confers on suitable health education materials and projects at the request of teachers.
7. Assists with evaluation of health program of the individual school.
8. Assists with parent-teacher and parent-education programs.

DENTAL PROGRAM

1. Gives dental inspections and instruction to all children.
2. Reports results of dental conditions.
3. Assists with group dental education.
4. Staffs a corrective dental clinic for indigent children.

MEDICAL PROGRAM

1. Offers health examinations to new children, those with known health problems, athletes, and grades 1, 4, 7, 10.
2. Offers immunizations and vaccinations.
3. Gives pre-employment teacher examination and at end of probation period.
4. Gives pre-employment examinations to all other employees, and annual examinations to lunchroom workers.
5. Offers limited consultation and preventive services to employees.
6. Serves parents for individual problems, P.T.A., and pre-school groups.
7. Cooperates in building health curriculum.
8. Examines handicapped children for special education programs.

GENERAL OBJECTIVES

1. Integration of health services into school program
2. Teachers participation in health program
3. Health education through experience
4. Community understanding of child health needs and responsibility for them
5. Optimum health for school employees, as well as children

city. Their leadership involved public health, private medicine, the medical school, the Parent-Teacher Association, and the school health program. This extensive support from the community has insured general acceptance of the heart clinic and its services. The operating cost was originally defrayed largely by a local fund known as the Junior Communty Chest Fund, which annually is collected from the school pupils and employees during the city-wide Community Chest Drive. This fund is designated for health and welfare needs of children when other established agencies cannot meet the needs. The Junior Community Chest gave $12,000 the first year to pay the clinic director and consultant cardiologists, social worker, and clerical help, and to meet some of the operating expense of the fluoroscopic and electrocardiographic examinations. For the past two years the Colorado Heart Association has directed the policies of the clinic and has assumed an increasing share of the expense of this diagnostic clinic. It now operates on an annual budget of approximately $14,000 from joint funds of the Denver Community Chest and the Colorado Heart Association. There is no charge for the diagnostic services, although some parents wish to make token payments and these are gladly accepted. Fraternal and civic groups have also contributed their assistance and some special gifts to the clinic.

Whenever children suspected of heart disease have private medical care, the private physician is contacted before the clinic is discussed with the parent or child. The family physician then chooses whether he wishes the child referred promptly to him or on to the Rheumatic Fever Diagnostic Service, after which a full report is sent to the doctor for his interpretation to the family. Indigent cases are referred directly to the Rheumatic Fever Diagnostic Service by the School Health Service Department or other health agencies. Thus, children are referred to the clinic either by their own physicians or, if indigent, by community health agencies. Printed record forms have been carefully developed by the schools and the clinic to assure proper use of the service and the most valuable statistical results.

The routine school examinations require about 15 minutes per student and are offered to the first, fourth, seventh, and tenth graders annually, to pupils new to the Denver school system at any other grade level, and to those needing rechecks from previously noted defects. From 12,000 to 14,000 examinations are done each year on those pupils whose parents request it, or about one-fourth of the school pupils. Children under private care are

urged at the beginning of the school year to obtain a health record from their own physicians, such records being additions to the children's cumulative health records of the periodic growth, hearing, vision, and dental examinations done in the schools.

In the school physical examinations each pupil is disrobed, and the heart is examined while the child is seated, while lying supine before and after exercise, and while turned on the left side. The small amount of extra time involved in having the child lie down is justified by the detection of a few additional cases of aortic regurgitation. The very low pitched murmur is not easily heard in noisy school examining rooms at any time.

The school examining physicians are instructed never to suggest or "advertise" this diagnostic heart clinic lest the parents later coerce their doctors into referring them there when the child's condition does not warrant it. This has been necessary both to pass the final decision to the private physician and also to maintain a brake upon the desires of many parents to have their children thoroughly examined in the free clinic.

The Diagnostic Clinic is open for patients Monday and Friday afternoons. Between 10 and 12 children can be handled at a clinic session. A half day diagnostic study is made on every child with suspected heart disease or rheumatic fever. Each child is given a thorough physical examination, including urinalysis, blood counts, serologic tests, sedimentation rate, electrocardiogram, a nutritional interview, and a social history. At least two cardiologists examine the heart and also perform cardiac fluroscopy, with barium in the child's esophagus.

These data are analyzed and a complete report made to the referring physician. On private cases, the family physicians ordinarily recommend the subsequent program and follow-up care for the school child. Two duplicate reports on each child are sent to the School Health Service Department, one for distribution to the school nurse for inclusion on the individual and confidential pupil health record and the other for the central file at the Health Service Department Office. The reports on indigent children likewise come to the School Health Service Department. These are interpreted by the school medical staff as to the proper activity program in school.

Recheck examinations on heart size, electrocardiographs, or sedimentation rates are occasionally requested by the clinic staff before submitting the final verdict on the child's exact heart condition. More complete cardiac rechecks on private patients are done

only when requested by the private physicians. This cooperation in the patient-family doctor relationship has encouraged many physicians to use the clinic facilities and obtain consultative help.

Work of the clinic has greatly sharpened the awareness of both the doctors and the general public to the problems of heart disease in children. Monthly medical seminars are held and are well attended by pediatricians, general practitioners, and school health personnel.

The detailed history and operation of the diagnostic clinic has been published,[1] as well as studies on 1,845 high school girls in Denver[2] and on 1,017 school children living in Colorado at altitudes above 10,000 feet.[3] The latter two revealed an incidence of 1.6 percent and 1.0 percent, respectively, of rheumatic heart disease.

A summary of the Rheumatic Fever Diagnostic Service is given in the accompanying table.

In the spring of 1950 an extensive survey of about 8,000 sixth grade children in Colorado was undertaken to be completed and published in 1951. Denver pupils were examined by three teams of cardiologists who found 16 cases of heart disease in 1,810 children. Four of these were congenital heart defects.

RHEUMATIC FEVER DIAGNOSTIC SERVICE
September 1944, to September 1948

PATIENTS:	Number	Percent
New Patients	3,235	
Revisits	786	
Total clinic visits	4,021	
SOURCES OF PATIENT REFERRALS:		
Private Physicians	1,673	52.0
Schools, with physician's permission	623	19.0
Schools, no private physician	655	20.0
Visiting Nurse Association	65	2.0
Red Cross and other agencies	210	7.0
DIAGNOSES		
No organic heart disease	2,177	67.3
Congenital heart disease	200	6.2
Rheumatic heart disease	535	16.5
Active rheumatic fever	180	
Inactive heart disease	355	
Possible or potential heart disease	323	10.0

Children classified as having possible, potential, or proved rheumatic heart disease are urged to have re-examinations the next year, or even sooner if evidences of the rheumatic state recur or other adverse conditions intervene. The prevention of false

cardiac cripples is as important as adequate care in the real cardiac cases. Concerted efforts are made to restore them comfortably to full activity. This is difficult in many cases where the patients have been limited, even digitalized, for functional murmurs. All private patients are encouraged to return regularly to their own physicians.

Children with active rheumatic fever are placed under medical treatment at once, either in private hospitals, at home, or in clinics. Local facilities are inadequate for convalescent care at the present time. Children with congenital heart disease face a far brighter future than even a decade ago. Many of them now receive catheterization studies and subsequent cardiac surgery in cooperation with the other clinics at the University of Colorado Medical Center and Hospital or by private specialists in other hospitals.

In Denver, at present, special schooling for the cardiacs is given by visiting teachers to five homebound pupils and by the Boettcher School for handicapped children to about 60 pupils who can engage in that limited program. The other known cardiac or rheumatic fever patients, about 400 of them, are able to attend regular schools, although some have special schedules to fit their needs. All of these pupils are counselled to have as regular and normal a living regime as they can tolerate. Most of the restrictions on children with minimal heart disease only deny them happiness. Only a few of those in regular schools are excluded from physical education and a few more from competitive sports.

Schools are vitally concerned and involved in the care of cardiac pupils. Other publications of the American Heart Association, the American Academy of Pediatrics,[4] and the American School Health Association[5] stress that competent medical staff and teacher guidance are essential to the control and care of these important health conditions in children.

1. The Denver Rheumatic Fever Diagnostic Service is a valuable community clearing house for all suspected cases of heart disease in children. Many other cities have similar clinics, and all children with suspected heart disease should have the benefit of such thorough study.

2. During the first four years of its operation, 1944-48, 3,235 children were referred to the Denver Rheumatic Fever Diagnostic Service; 16.2 percent were verified to have rheumatic heart disease and 6.2 percent proved to have congenital heart defects. A small group were considered to have potential rheumatic heart disease and will be carefully watched.

3. Even in this carefully selected group of children, with heart murmurs or evidences of the rheumatic state, 67.3 percent had no cardiac disease.

4. More and better facilities for convalescent care with home teaching are needed in Denver.

5. All efforts to diagnose, treat, and rehabilitate those with rheumatic heart disease are commendable, but the greatest need is for the prevention of rheumatic fever and rheumatic heart disease in childhood. Republished from the Journal of the American Medical Women's Association, March, 1951, p. 101.

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Athletic Records, Women,—Beginning about two generations ago it began to dawn on young women that there were better ways of being interesting than by being an interesting invalid. For the result of this change in attitude, see the table of records for women below:

	1906 +	1950-1951
100 yards	13.2 Sec.	10.7 Sec.
220 yards	32.0 Sec	24.2 Sec.
High jump	4.0 Ft.	5.7½ Ft.

We are doing fine, thank you!

* * * * *

Illinois Health Services for Children,—Three new health services for children have been initiated by the state department of public welfare. They are (1) a hospital specializing in psychiatric treatment for children under 18, to be located in Chicago's Medical Center District; (2) a diagnostic and treatment ward for emotionally disturbed children at Illinois Neuropsychiatric Institute; (3) a unit for the treatment of youthful mental patients at Galesburg Research Hospital. Journ. A.M.A., Sept. 22, 1951, p. 329.

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EDITORIALS

Women in School Health,—In honor of our most recent President, Gertrude E. Cromwell, R.N., B.S., M.S., the group of articles appearing in this November issue of the Journal of School Health have been chosen. The authors — all Doctors of Medicine — are among the large number of women who have made unique contributions greatly and graciously to the success of the School Health Programs in the school of today.

Long unsung and even unnoted, women in Medicine and in Public Health are now taking their proper place and rank in national associations. Twice women have been chosen as President —and deservedly—to lead the American School Health Association.

Three of the women authors whose papers are reproduced in this journal have become the administrative heads of city school health services in their communities.

Moreover no one will ever know how great a debt many physician directors of school health services owe to the leader of the school nurses in their respective school health programs.*

*We wish to express our thanks to Ada Chree Reid, M.D., Editor of the Journal of the American Medical Women's Association for the courtesy extended in authorizing the republication in the Journal of School Health of the articles used.—Ed.

Riding a Hobby,—In contacting—as reviewer and reader—recently published books your editor is struck with the feeling that some authors seem to try to destroy the value of an otherwise good text by overemphasizing their own peculiar (perhaps particular is a less harsh word) ideas or theories.

In a recent case of this sort there are ideas and statements based on misconceptions of the history of man and of his nature.

First is expressed the idea that the "group process" as an educational procedure is new in education. This is not so either in education or in physical education. Neither is the inference that joint production of texts is a new and unique procedure. There are many jointly produced texts—in the fields of Medicine, Surgery, Physical Medicine, and Education. The Yearbooks of the American Association of School Administrators, and a large proportion of modern curricula are the products of group efforts.

Neither is the idea new that education should be of the whole individual, this effort going back at least to ancient Athens and even to tribal days. Several others seem to stand on an extremely exiguous podium. For instance:

In "rejecting the idea of mass education in favor of experiences adapted to individual needs," we seem not to have been extremely successful. The increasing percentage of our people placed in institutions for the mentally ill, and of the socially ill in prisons and under other restraints, would weaken this claim of efficiency for our newer efforts toward education of the individual.

The most successful type of teaching that we have—coaching in team athletic sports—restricts the freedom of the individual—it even submerges him. This is not to claim that coaching procedures are wholly desirable, but they do accomplish their purpose; perhaps because of their frequent "tests."

We doubt the truth of the statement sometimes made that "from one fourth to one third of our people are ill-housed, ill-fed, poorly educated, and do not have adequate health services." Politicians with an axe to grind, and some others—who should know better—have made this claim, but have not proven its truth.

The idea of competition is not a "frontier belief," dating from American pioneer times. It is fundamental in man's development—competition for food, for environment, for housing, for love is necessary for survival, and has been for eons.

Whenever we contact a fact or an idea that we have not met before, that is new—to us—but almost always is old to mankind. —*C.H.K.*

ABSTRACTS and NOTES

Immunity in Tuberculosis,—Fundamental methods of controlling tuberculosis consist of treating it as a contagious disease and thus preventing bacilli from invading the tissues of people and animals. This necessitates the use of the tuberculin test, x-rays, the microscope, culture mediums, animal inoculation and other procedures, as well as isolation and treatment of patients with contagious disease in hospitals and sanatoriums. Scores of physicians have long sought methods of artificially produced dependable immunity for tuberculosis. None have succeeded, probably because natural infection with virulent tubercle bacilli does not result in dependable immunity. BCG is a living bovine type bacillus of reduced virulence. In culture mediums its virulence fluctuates significantly. When introduced into human tissues, it causes tuberculous lesions which may come under control in a few months. In some cases abscesses develop and regional lymph nodes discharge pus for many months. BCG causes progressive and killing tuberculosis in silicotic animals as well as those on deficient diets. The amount of scientific work reported to prove its harmlessness in man is almost nil. BCG or vole tubercle bacillus vaccine renders the tuberculin reaction useless as a diagnostic and epidemiological agent and diminishes or even eliminates much necessary public support by creating a sense of false security in the minds of the people.

The tuberculin reaction is not a criterion of the presence of immunity. This reaction indicates only the presence of allergy, which is a prerequisite for development of clinical forms of tuberculosis. No method of identifying or measuring immunity or resistance to tubercle bacilli is available. Most observations on BCG have been limited to those conditions that occur within a year or two after allergy is established by natural infection. Here it is said to be 60 to 80 per cent efficacious. These conditions constitute only about 3 per cent of our problem. There is no evidence that it has any value in the remaining 97 per cent.

No scientific adequately controlled study of BCG has ever been conducted over a sufficient period of time to justify conclusions regarding its efficaciousness. It is doubtful whether such a study is possible in persons living in their homes. However, the serious effort now being made by the Division of Tuberculosis of the United States Public Health Service deserves unstinted support of the medical profession.

The use of fundamental methods exclusively over the last 30

years has resulted in control of tuberculosis among our students of nursing and medicine, American Indians, the general public and domestic animals that has never been remotely approached anywhere by the use of an immunizing agent. These methods when properly executed are sure of accomplishment. At the present time they afford our only hope of eradicating tuberculosis. Summary and conclusions from an article in the Journal A.M.A., Aug. 18, 1951, by J. Arthur Myers, M.D.

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Anatuberculin Vaccination,—Convincing proof of the success or failure of protecting children against tuberculosis by vaccination has been difficult because of the lack of exact clinical experiments; for intentional exposure of a child or group of children to tuberculosis is not in keeping with modern ethical codes. However, in Italy, during the stress of the last world war, an unintentional clinical experiment took place and has been recently reported in an Italian pediatric publication.*

In Italy, Petragnini's anatuberculin (killed tubercle bacilli) instead of B.C.G., is the prevailing means of vaccinating children against tuberculosis.

During the war years, an overcrowded institution for babies near Venice was the site of an epidemic of active tuberculosis. The massive exposure was believed to be due to the admission of babies with active tuberculosis and to their being left in close contact with other babies in small rooms. Of 134 babies in the institution, 54 had been vaccinated with Petragnini's anatuberculin; 78 were unvaccinated. Of the 54 vaccinated infants, 9 had developed within one year a tuberculous infection, all being of the hilum glands; there were no deaths. Of the 78 nonvaccinated infants, 21 developed tuberculosis, 9 having hilar lymphadenitis and the other 12 exudative lesions—acute miliary, meningeal or active pulmonary; 11 died.

The epidemic had brought about an unintentional but quite conclusive experiment, which indicates the efficacy of Petragnini's anatuberculin in protecting infants against tuberculosis. Even infants who received the prophylactic injections as short a time as one month prior to the epidemic appeared to receive protection. From New Eng. Jr. of M., August 9, 1951.

*Ferro, A., and Taronna, S. Esperimento Clinico, Involontario, sulla Resistenza di Bambini Vaccinati e Non-vaccinati contro la T.B.C. di Fronte a Contagio Altamente Infettante. Clin. Pediat. 32:225, 1950, and 33:1, 1951.

Some Facts About TB:

Tuberculosis kills more people in the United States than all other infectious diseases combined.

Tuberculosis killed approximately 40,000 persons in the United States in 1949, at the rate of 100 a day, one person every 13 minutes.

Estimates place the number of tuberculosis deaths all over the world at almost 5,000,000 a year.

First among diseases as a cause of death in the United States in the age group from 15 to 35, TB can—and does—kill at all ages.

Tuberculosis is the chief cause of death among children throughout the world, according to the United Nations International Children's Emergency Fund. In the United States, it annually kills approximately 1,600 children under 15 years of age.

Tuberculosis is increasingly becoming a problem among older people, killing approximately 24,000 persons 45 years of age or more in a year; nearly 8,000 persons 65 years of age and over.

The median age at which tuberculosis kills has advanced in the last 10 years from 39 to 48. The median age for cancer is 65 and for heart disease is 70.

Since the campaign for tuberculosis was inaugurated almost 50 years ago, the dath rate has been forced down 85 per cent. This has meant a saving of 5,000,000 lives for, if TB had continued to kill at the rate of 50 years ago—194 per 100,000 population—it would have killed 5,000,000 more people than have died of tuberculosis in the intervening years.

There is no perfect vaccine for the prevention of tuberculosis. The best-known immunizing agent is BCG (Bacillus of Calmette and Guerin) which appears to offer limited protection against the disease. It is not, however, a substitute for approved public health measures of control. Abstracted from material issued by the National Tuberculosis Association.

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Changing Causes of Death in Childhood.—The so-called degenerative conditions—cardiovascular disease and cancer—now cause more deaths among children of school age in the United States than all the infectious and parasitic diseases combined.

The array of infectious diseases frequently referred to as "childhood diseases" has in the past been associated with the young age group in various ways. They occurred more frequently than other diseases within the young group, and they were generally concentrated in this group rather than in other ages. In addition, these relationships were true for mortality as well as sickness measurements.

Within recent years, the long-term trend of decreased mortality from infectious diseases has resulted in a change in one of the above associations. The infectious diseases are no longer more frequent than other diseases as a cause of death among school-age children. Public Health Reports, Sept. 28, 1951, p. 1246.

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REVIEWS

Understanding Your Son's Adolescence. *J. Roswell Gallagher, M.D.,* Little, Brown and Company, Boston, 1951, 212 pp. Price $3.

The author of this text has had an intensive experience in the age and phases of adolescence. He was formerly school physician at Hill School at Pottstown, Pennsylvania; then, for sixteen years, school physician at Phillips Academy in Andover, Massachusetts, and now in charge of adolescent services at the Children's Medical Center, Boston; and Assistant Professor of Child Health at the Harvard School of Public Health. He is author of articles appearing in the Atlantic Monthly and the Reader's Digest and of numerous articles in professional and scientific journals—including the Journal of School Health.

This text—divided into chapters on "They're Trying to Grow Up," "Health Can Be Healthful," "Health Facts," "There Is No Average Boy," "Sex Is Necessary," "Why Boys Fail," "Can't Read, Can't Spell," "Mental Health Is Basic," "Why They Misbehave"—presents in sane, scientific, and logical statements the conclusions of twenty years or more study, observation and experience in dealing with adolescent boys.

Any person dealing with boys, particularly those of the secondary school age, should possess, read and study this text.—*C.H.K.*

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Group Process in Physical Education. *By the Staff of the Physical Education Department,* University of California, Los Angeles. Edited by Hilda Clute Kozman, Harper & Brothers, Publishers, New York, 1951, 418 pages. Price $4.50.

"Group Process in Physical Education" is not just another book on physical education. There is much here which is new and challenging especially in the field of group dynamics. The procedure and techniques inherent in group dynamics when thoroughly understood and properly used have proven of exceptional value in the development of democratic attitudes, methods, and ideas. "Group Process in Physical Education" has extended this concept to the field of physical education not only in theory but in practice.

The authors in the early chapters of the book have skillfully laid the basis for an understanding of the individual's personality development in a democratic society and have traced the process through which the individual becomes a mature and democratic person. This is followed by an overview of the group process and a description of various leadership patterns and group responses also group planning and methods of achieving desirable outcomes.

The authors have defined group process as "the way in which individuals function in relation to one another in working toward a common goal. In democratic group process the relationships are cooperative and each member is responsible for himself and others in achieving the group goal."

The authors make it clear that modern physical education no longer is just an isolated exercise program but has to take into consideration psychology, psychotherapy, individual guidance, social and recreational techniques with the development of the type of physical education which will promote democratic living.

Miss Kozman has done a scholarly job in editing this book and integrating the points of view, methods, and techniques of the many contributors.

The book is highly recommended not only to all physical educators but also to all who are working to achieve a higher level of democracy in action.—*C. Morley Sellery, M.D.*

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Physical Education—Foundations and Principles. *Clifford Lee Brownell* and *E. Patricia Hagman,* McGraw-Hill Book Co., Inc., New York, 1951, 397 pages. Price $4.50.

This text is divided into five parts: I, dealing with the philosophy and historical development; II, discussion of the program; III, instruction and supervision; IV, administration; V, evaluation.

Each of the chapters (16) is followed by an excellent group of Questions and Problems for Discussion, and by a Bibliography covering the era and the problems presented. These have great value.

The chapters are given sectional and topical headings that make for ready reference, and facilitate greatly the use of the text for class and reference purposes.

A desirable book for literary use and for individual ownership.—*C.H.K.*

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MEETING

American School Health Association and American Public Health Association at Cleveland, Ohio, in 1952.